

HAM 1118-0199

No. 2504

REPORT ON MACHINERY.

Port of Hamburg

TUES. 23 MAY 1893

Received at London Office

No. in Survey held at Hamburg

Date, first Survey Novemb. 11. 1892 Last Survey May 18th 1893

on the Stad. S. S. Irene

(Number of Visits 34)

Master Schneider Built at Hamburg By whom built Reihenstieg Schiffm. & M. When built 1893

Engines made at Hamburg By whom made Reihenstieg Schiffm. & M. when made 1893

Boilers made at Hamburg By whom made do. do. when made 1893

Registered Horse Power 350 Owners Deutsche Dampfsch. Rhederei Port belonging to Hamburg

Net Horse Power as per Section 28 324

ENGINES, &c.— Description of Engines Triple compound, surf. cond., ins., on 3 cranks. No. of Cylinders 3

Diameter of Cylinders 25¹/₂, 41¹/₂, 65¹/₂ Length of Stroke 42¹/₂ Revolutions per minute 70 Diameter of Screw shaft as per rule 11.88¹/₂

Diameter of Tunnel shaft as per rule 11.28 Diameter of Crank shaft journals 12³/₄ Diameter of Crank pin 12³/₄ Size of Crank webs 8¹/₂ x 26¹/₂

Diameter of screw 16.0 Pitch of screw 18.6 No. of blades 4 State whether moveable no Total surface 69 sq. ft. dove shaped.

No. of Feed pumps 2 Diameter of ditto 3⁷/₈ Stroke 22¹/₂ Can one be overhauled while the other is at work yes.

No. of Bilge pumps 2 Diameter of ditto 4 Stroke 22¹/₂ Can one be overhauled while the other is at work yes.

No. of Donkey Engines 2 Sizes of Pumps 1 Worthington 13¹/₂ tons p.h. 1 Injector No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room 2¹/₂, 2³/₄, 3¹/₂, 4¹/₂ In Holds, &c. 2¹/₂, 3¹/₂ x 5¹/₂ Worthington & bilge pumps

Are all the bilge suction pipes fitted with roses yes Are the roses in Engine room always accessible yes Are the sluices on Engine room bulkheads always accessible yes

Are all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks Valves and cocks

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates yes Are the discharge pipes above or below the deep water line above

Are they each fitted with a discharge valve always accessible on the plating of the vessel yes Are the blow off cocks fitted with a spigot and brass covering plate yes

Are all pipes carried through the bunkers none How are they protected —

Are all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times yes

Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges yes

Were stern tube, propeller, screw shaft, and all connections examined in dry dock on the stocks Is the screw shaft tunnel watertight yes

Is it fitted with a watertight door yes worked from Cylinder platform.

BOILERS, &c.— (Letter for record S) Total Heating Surface of Boilers 5670 sq. ft.

Description of Boilers Cylindrical non-tubular Working Pressure 164 lbs. Tested by hydraulic pressure to 334 lbs.

Year of test 30/3 93 Can each boiler be worked separately yes Area of fire grate in each boiler 80 sq. ft. No. and Description of safety valves to boiler 2 Spring loaded. Area of each valve 10.34 Pressure to which they are adjusted 164 lbs Are they fitted with easing gear yes. Smallest distance between boilers or uptakes and bunkers or woodwork 22 Mean diameter of boilers 19.9

Material of shell plates Steel Thickness 1³/₁₆ Description of riveting: circum. seams Lap tube riv. long. seams butt str. tube riv.

Diameter of rivet holes in long. seams 1¹/₄ Pitch of rivets 4¹³/₁₆ Lap of plates or width of butt straps butt str. 14

Percentage of strength of longitudinal joint 97.84 Working pressure of shell by rules 190.6 lbs. Size of manhole in shell 13 x 16

Material of compensating ring 4¹/₈ x 1 No. and Description of Furnaces in each boiler 4 corrugated Material Steel Outside diameter 3.97

Material of plain part top Thickness of plates bottom 3¹/₈ Description of longitudinal joint welded No. of strengthening rings —

Working pressure of furnace by the rules 222.5 lbs. Combustion chamber plates: Material Steel Thickness: Sides 5⁷/₈ Bottom 5⁷/₈ Top 5⁷/₈ Bottom 2 1/2

Material of stays to ditto: Sides 8 x 10 Back — Top 8 x 8 If stays are fitted with nuts or riveted heads with nuts Working pressure by rules 186.8 lbs.

Material of stays Steel Diameter at smallest part 1³/₈ Area supported by each stay 71.24 Working pressure by rules 165 lbs. End plates in steam space: Material Steel Thickness 1 Pitch of stays 14¹/₂ How are stays secured with nuts on washers riv. to plates Working pressure by rules 189.6 lbs. Material of stays Steel

Diameter at smallest part 2⁷/₁₆ Area supported by each stay 195 sq. in. Working pressure by rules 216.8 lbs. Material of Front plates at bottom Steel

Material of Lower back plate 13¹/₁₆ Thickness Steel Greatest pitch of stays — Working pressure of plate by rules —

Diameter of tubes 3⁷/₈ Pitch of tubes 4¹/₂ Material of tube plates Steel Thickness: Front 13¹/₁₆ Back 13¹/₁₆ Mean pitch of stays 9 x 9

Distance across wide water spaces 14 Working pressures by rules double L iron Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 10¹/₂ x 12¹/₂ Length as per rule 46 Distance apart 8¹/₈ Number and pitch of Stays in each 4 - 8¹/₂

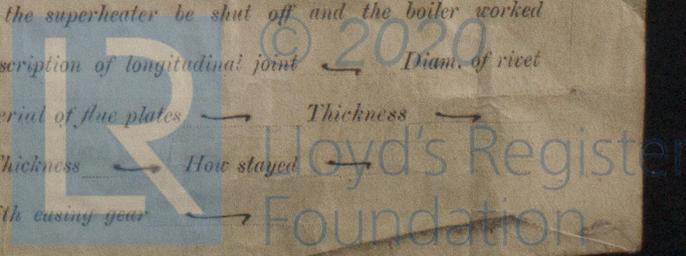
Working pressure by rules 192 lbs. Superheater or Steam chest; how connected to boiler — Can the superheater be shut off and the boiler worked separately —

Diameter — Length — Thickness of shell plates — Material — Description of longitudinal joint — Diam. of rivet —

Pitch of rivets — Working pressure of shell by rules — Diameter of flue — Material of flue plates — Thickness —

Stays — Distance between rings — Working pressure by rules — End plates: Thickness — How stayed —

Working pressure of end plates — Area of safety valves to superheater — Are they fitted with easing gear —



DONKEY BOILER— Description *Cylindrical, multi-tubular with 3 furnaces, comb. chamb. & tubes.*
 Made at *Hamburg* By whom made *Reichending Schiffbau & Mfg.* When made *1893* Where fixed *in Stehhold.*
 Working pressure *16 1/2 lbs.* tested by hydraulic pressure to *334 lbs.* No. of Certificate *16/93* Fire grate area *16.84 sq.* Description of safety valves *Spring loaded*
 No. of safety valves *2* Area of each *3.14 sq.* Pressure to which they are adjusted *16 1/2 lbs.* If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *no* Diameter of donkey boiler *8.6"* Length *8.4 1/2"* Material of shell plates *Steel* Thick. as *2 1/2"*
 Description of riveting long. seams *dbl. butt str. treble riv.* Diameter of rivet holes *1 1/16"* Whether punched or drilled *drilled* Pitch of rivets *3 3/4"*
 Rivets *8 1/2 x 7 1/2* Rivets *8 1/2 x 7 1/2* Thickness of *end* plates *top 1 1/8"* Diam. *Stays 2 1/8"* Pitch *3 3/4"*
 Dia. of stays *1 3/8"* Per centage of strength of joint *14%* Plates *27. x 2* Thickness of *end* plates *top 1 1/8"* Diam. *Stays 2 1/8"* Pitch *3 3/4"*
 Dia. of stays *1 3/8"* Diameter of furnace *top 28"* Length of furnace *5.6"* Thickness of furnace plates *1 1/2"* Description of joint *welded* Thickness of *comb. chamb.* crown plates *1 1/16"* Stayed by *1 1/2" sec. stays pitched 7 x 9 1/2"* Worki *by rules 1 1/3 lbs.*
 Working pressure of furnace by rules *208.1 lbs.* Diameter of *tubes 3"* Thickness of *tubes* plates *1 1/16"* *1 1/8" x 8 3/8"*

SPARE GEAR. State the articles supplied:— *2 connect. rod top & 2 do bottom end bolts, 2 sets coupling bolts, 1 set feed & bilge pump valves, 1/2" crankshaft, 1 tail shaft, 1 set of circular pump rod each, 1 slide rod for each cylinder, 3/2 brass connect. rod ends, 3/2 brass do bottom end, 1 link block, 1 guide slipper, 3 sets brasses for pump gear links, 1 set of*
 The foregoing is a correct description, *1 spring each for main safety valves, 30 condenser tubes, 100 screws, 10 do, 40 tubes, 1 set fire*
 Manufacturer. *W. Gausenbrock & Maschinenfabrik, Main Bldg, 10 do, 1 set fire*

General Remarks (State quality of workmanship, opinions as to class, &c.)

Materials and Workmanship of the above Machinery are of first class description, the outfit is ample and substantial. The copies of invoices of the Boiler Steel material, signed by the testing officers, are in my hands, the forging certificates for the full line of shafting will be found attached.
I attended a satisfactory trial trip, when the Machinery during 10 hours gave very good results; at the same time I controlled the Safety valves of Main and Donkey Boilers and found them correctly adjusted to the working pressures.
*I am of opinion that the Machinery of this vessel is eligible to be classed in the Society's Register Book, and beg to recommend that * L. M. C. 5.93 be recorded.*

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 5.93 -
Prof 24/5/93 -

Certificate (if required) to be sent to *Hamburg Office.*
 amount of Entry Fee. £ *3: 0: 0* When applied for,
 Special £ *36: 4: 0* 18 1/2
 Donkey Boiler Fee £ *8: 2: 0* When received,
 Travelling Expenses (if any) £ : : *17 1/2* 18 1/2

Mr. Bennett
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute **FRI 23 MAY 1893**
 Assigned *+ L.M.C. 5.93*

